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WAR FOOD ADMINISTRATION

Minimum Isolation Distances for Commercial Vegetable Seed Production

Isolation refers to the necessary minimum distance separation between varieties to prevent either mechanical mixtures or cross-pollination.

The distance required depends upon the kind of crop, the direction of prevailing winds, the location of bee colonies or hives, the prevalence of insects, the presence of woods or other high growing vegetation and the frequency, density, and duration of fogs and cold windy weather.

The following distances are proposed as the minimum, recognizing that under many circumstances greater distances are advisable:

(between any two of table beet, mangel beet, sugar beet, swiss chard.  
1 mile (between types of corn (dent, pop, sweet, flour, waxy, etc.).  
320 rods (between celery and celeriac and between green and yellow celery.  
1760 yds. (between white or yellow fleshed carrots and orange fleshed carrots.  
5280 feet (between brassicas - see page 2.

(between any two varieties of any one of the following: asparagus,  
( beet, broccoli, brussels sprouts, cauliflower, collard, kale,  
( kohlrabi, winter rape, cantaloupe, muskmelon, white melon,  
1/4 mile ( carrot, celeriac, celery, chinese cabbage, cucumber, leek,  
80 rods ( onion, okra, parsley, parsnip, pumpkin (C. pepo), radish,  
440 yds. ( squash (C. maxima), sweet corn, spinach, turnip, rutabaga, or  
1320 feet ( watermelon.

(between varieties of cantaloupe and varieties of white melons.  
(between any two classes of lettuce, i.e. cos, stem, leaf, or heading.  
(between any two varieties of cabbage - see page 2.

(between any two varieties of pepper, eggplant, and tomato with a tall  
( dense growing crop as barrier between varieties.  
150 feet (between any two varieties of chicory, endive, and lettuce in the same  
( class with no tall growing barrier between varieties.

(of dense tall growing barrier such as sunflower, corn, etc. between  
12 feet ( any two varieties of chicory and endive and between any two  
( varieties of lettuce in the same class.

(between any two varieties of peas or beans with a tight fence or tall  
( dense growing barrier to reduce occasional hybridization and  
6 - 12 ft. ( prevent mixtures in harvesting and threshing. Weevil control  
( necessary at this short distance.

The concentration of one variety or type in one section would make unnecessary 1/4 or 1 mile distances between fields and also reduce the possibility of threshing machine mixture. One variety to a community or section is, therefore, to be advocated and encouraged. In the case of onion, Southport Yellow Globe, Brigham Yellow Globe, Ohio or Michigan Yellow Globe, and Melzers Yellow Globe could be planted in one section without harm to the commercial value of the seed. Strains of the same variety of beet and carrot could also be grown in adjacent fields without serious harm.

Stock seed lots should be given better isolation than seed for commercial use.

MAR 7 1945

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Minimum Isolation Distances 1/ for Varieties and Types  
of Brassica (Cabbage, Cauliflower, Kale, Etc.)

Classification of Varieties

Group 1. (Early Pointed)

Jersey Wakefield  
Charleston Wakefield

Group 2. (Late Pointed)

Winniestadt

Group 3. (Early Round)

Golden Acre  
Green Acre  
Early Copenhagen  
Resistant Detroit

Group 4. (Midseason Round)

Medium Copenhagen  
Glory  
Midseason Market  
Farrys Round Dutch  
Racine Market)  
Marion Market) Yellows Res.  
Globe )

Group 5. (Late Round-Danish)

Danish Ballhead  
Reeds Ballhead  
Oakview Ballhead  
Penn. State Ballhead  
Wis. Ballhead )  
Wis. Hollander) Yellows Res.  
Bugner )

Group 6. (Flat or Drumhead)

Steins Early Flat Dutch  
Late Flat Dutch  
All Seasons  
Succession  
Brunswick

Group 7. (Miscellaneous)

Red Cabbage  
Savoy Cabbage  
Kales  
Kohlrabi  
Brussels Sprouts  
Sprouting Broccoli  
Cauliflower  
Collards  
Winter Rapes

Isolation Distances

40 rods or 660 feet

Between any 2 varieties within any one group, except within group 7.

60 rods or 990 feet

- (a) Between any variety in group 1 and any variety in group 2.
- (b) Between any variety in group 3, 4, or 5 and any variety in any other of the groups 3, 4, or 5.

80 rods or 1320 feet

- (a) Between any variety in group 1 or 2 (pointed head) and any variety in group 3, 4, 5 (round head), or 6 (flat head).
- (b) Between any variety in group 3, 4, or 5 (round head) and any variety in group 6 (flat or drumhead).
- (c) Between any variety of any one of the 9 kinds in group 7 and any other variety of the same kind.

320 rods or 5280 feet

Between any variety in any one of the 9 kinds in group 7 and any variety in any of the other kinds in group 7 or in any of the other groups.

1/ It should be emphasized that these are minimum not average distances and that greater distances are desirable where they can be obtained.

March 10, 1945  
Washington, D. C.